REMARKS

This paper is responsive to the Office Action dated September 22, 2005. All rejections and objections of the Examiner are respectfully traversed. Reconsideration of all claims and withdrawal of all rejections are respectfully requested.

At paragraph 4 of the Office Action, the Examiner rejected claims 1-4, 9-10, 12-20, 25-26, 28-37, 39, 41, and 44-47 under 35 U.S.C. 102(a), citing "XNAMI - An eXtensible XML-based paradigm for Network and Application Management Instrumentation" by John et al. ("John et al."). Applicants respectfully traverse this rejection.

John et al. discloses a system that uses XML to extend a Management Information Base (MIB) at run-time. In order to add a MIB variable at run-time using the John et al. system, an XML description of the new variable, and code for processing GET and SET operations on the new variable, are downloaded through SNMP protocol data units (PDUs) to an SNMP agent on the managed element. See John et al. page 5, left hand column, lines 12-22, and right hand column lines 5-11.

The features of the present independent claims 1, 17 and 33 advantageously allow dynamic instantiation and launching of services based on object class, such as a Java class, that may include a variety of computations that are locally performed on a network device, as opposed to simply providing GET and SET functions for static MIB variables, as is done in John et al. Nowhere in John et al. is there disclosed or suggested any method or system for controlling a data forwarding service in a network device comprising a data forwarding device, including:

> receiving at the network device a document written in accordance with a markup language and a corresponding document definition, ***wherein the document describes the data forwarding service by specifying a class of objects for the data forwarding service***;
>
> . . .
>
> executing the data forwarding service on the network device . . . wherein the executing includes ***instantiating and launching the data forwarding service in the data forwarding device based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device to filter network traffic***. (emphasis added)

Analogous limitations are also present in independent claims 17 and 33. Applicants respectfully urge that the XML is used in John et al. only to convey a new MIB variable definition, together with code operable to process subsequent GET and SET requests. The SNMP PDU containing the "XML string for variable definition", together with "Compressed Method bytecode" is shown in Fig. 8 of John et al. on page 7. With regard to the "XML string for variable definition" shown in Fig. 8, John et al. state as follows beginning at line 32 of the left hand column of page 7:

> The value to which the manager SETs mib_proxy is a string containing ***a description in XML of the new objects in the subtree***. (emphasis added)

John et al. go on to describe the "Compressed Method bytecode" in the SNMP PDU of Fig. 8 as follows beginning at line 3 of the right hand column of page 7:

> The values which the manager passes to the methods_proxy object are strings containing the compressed Java byte code, one for each leaf node being added to the tree. The bytecode strings contain the code for doing GET and SET operations on the newly-added MIB objects. As the new MIB objects are created, ***the bytecode for each node is decompressed and loaded as a Java class containing two methods, one for a GET on the MIB object and one for a SET***. (emphasis added)

The above sections of John et al. teach that the Java class defined by the SNMP PDU of Fig. 8 indicates methods for GET and SET operations on the newly created MIB variable. As described in Section 2.2 of John et al., SNMP SET operations are modification operations on MIB variables, while SNMP GET operations are a type of retrieval operations on MIB variables.

Applicants respectfully urge that the XML code conveyed by the John et al. system is used to define and provide access to ***management information contained in a MIB variable.*** See John et al., left hand column of page 6, bottom line, through line 22 of the right hand column on the same page. While John et al. disclose generally that MIBs are used in data forwarding devices such as routers ("One vendor, for example introduced 6 different routers in an 18 month period", column 1 page 1), nothing in the teachings of John et al. regarding accessing management information objects in a MIB provides any hint or suggestion of receiving a document written in accordance with a markup language and a corresponding document definition, wherein the document *describes the data forwarding service by specifying a class of objects for the data forwarding service, and executing the data forwarding service on the network device, wherein the executing includes instantiating and launching the data forwarding service in the data forwarding device based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device to filter network traffic*, as in the present independent claims 1, 17 and 33.

As a result of these differences, the John et al. system falls short of the flexibility provided by the presently claimed system. The approach provided by John et al. is limited in operation to specifying management information to be accessed based on object identifiers (OIDs) associated with MIB variables, while claims 1, 17 and 33 more advantageously and flexibly describes a data forwarding service including an application for configuring a forwarding

architecture by specifying an identifier of a class of objects for the data forwarding service. As noted above, the features of the present independent claims 1, 17 and 33 advantageously allow dynamic instantiation and launching of services based on object class, such as a Java class, that may include a variety of computations locally performed on a network device, as opposed to simply providing GET and SET functions for static MIB variables, as is done in John et al.

For these reasons, Applicants respectfully urge that John et al. does not disclose or suggest all the limitations of the present independent claims 1, 17 and 33. John et al. accordingly does not anticipate the present independent claims 1, 17 and 33 under 35 U.S.C. 102. As to dependent claims 2-4, 9-10, 12-16, 18-20, 25-26, 28-32, 34-37, 39, 41, and 44-47, they each depend from claims 1, 17 and 33, and are respectfully believed to be patentable over John et al. for at least the same reasons.

At paragraph 5 of the Office Action, the Examiner rejected claims 5-8, 11, 21-24, 27, 38 and 48-50 for obviousness under 35 U.S.C. 103(a), again citing John et al., in combination with "An Introduction to the Extensible Markup Language XML" by Bryan ("Bryan"). Applicants respectfully traverse this rejection.

As with John et al., nowhere in Bryan is there disclosed or suggested any method or system for controlling a data forwarding service in a network device comprising a data forwarding device, as in the present independent claims 1, 17, 33 and 48, from which claims 5-8, 11, 21-24, 27, 38 and 49-50 depend. Neither John et al. nor Bryan teach or suggest:

> receiving at the network device a document written in accordance with a markup language and a corresponding document definition, ***wherein the document describes the data forwarding service by specifying a class of objects for the data forwarding service;***
>
> . . .
>
> executing the data forwarding service on the network device . . . wherein the executing includes ***instantiating and launching the data forwarding service in the data forwarding device based on the class of objects for the data forwarding service, and***

wherein the data forwarding service configures a forwarding architecture in the network device to filter network traffic. (emphasis added)

Bryan provides an overview of commonly used components in XML, including Document Type Definitions (DTDs) to formally identify the relationships between elements in an XML document. Neither John et al. nor Bryan include even a suggestion of the desirability of the above indicated features of the present independent claims, from which claims 5-8, 11, 21-24, 27, 38 and 49-50 depend.

Applicants therefore respectfully urge that the combination of John et al. and Bryan does not disclose or suggest all the limitations of the present independent claims 1, 17 and 33. The combination of John et al. and Bryan accordingly does not support a *prima facie* case of obviousness under 35 U.S.C. 103 with regard to the present independent claims 1, 17, 33 and 48. As to dependent claims 2-4, 9-10, 12-16, 18-20, 25-26, 28-32, 34-37, 39, 41, and 44-47, they each depend from claims 1, 17, 33 and 48, and are respectfully believed to be patentable over the combination of John et al. and Bryan for at least the same reasons.

At paragraph 6 of the Office Action, the Examiner rejected dependent claims 40 and 46 for obviousness under 35 U.S.C. 103(a), again citing John et al., as well as lines 8-16 on page 9 of the Applicants' Specification, and "Dynamic Classification in Silicon-based Forwarding Engine Environments" (Jaeger). Applicants respectfully traverse this rejection.

Applicants first respectfully urge that the statements in lines 8-16 on page 9 of the Specification do not constitute an admission of prior art. Applicants note that the first words of that paragraph are "In one example of the invention. . . " In addition, the section of the Specification containing those lines is entitled "DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS". Moreover, the cited text repeatedly refers to the ORE™

embodiment as "an example of the invention". For at least these reasons the statements in lines 8-16 on page 9 of the Specification should not be considered an admission of prior art.

As with John et al., nowhere in Jaeger is there disclosed or suggested any method or system for controlling a data forwarding service in a network device comprising a data forwarding device as in the present independent claim 33, from which claims 40 and 46 depend. Neither John et al. nor Jaeger teach or suggest a network device for locally performing a data forwarding service in accordance with a received document written in a document markup language, wherein the network device comprises a data forwarding device, including:

> a parser that is adapted to parse the received document in accordance with a document definition to obtain an identifier of the service, ***wherein the parsing determines at least one parameter describing the data forwarding service by specifying a class of objects for the data forwarding service***; and
>
> a service launcher that is adapted to launch the data forwarding service corresponding to the identifier parsed from the received document, ***wherein the service launcher instantiates and launches the data forwarding service in the data forwarding device upon completion of the parsing based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device operable to filter network traffic.*** (emphasis added)

Jaeger discloses a programmable network architecture built on a Gigabit Ethernet L3 Routing switch to support downloadable services. Neither John et al. nor Jaeger include even a suggestion of the desirability of the above indicated features of the present independent claim 33, from which claims 40 and 46 depend. For these reasons, Applicants respectfully urge that the combination of John et al. with Jaeger does not disclose or suggest all the limitations of the present independent claim 33, from which dependent claims 40 and 46 depend.

Applicants further respectfully urge that the Examiner has not established a sufficient motivation to combine the John et al. with Jaeger. A *prima facie* case of obviousness under 35

U.S.C. 103 must include a showing of a suggestion, teaching or motivation that would have led a person of ordinary skill in the art to combine the cited references *in the particular manner claimed*. See In re Dembiczak, 175 F.3d 994, 998 (Fed. Cir. 1999), and In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir. 2000). "[C]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight." Dembiczak, 175 F.3d at 999. In the present rejection, the Examiner asserts that a skilled person would be motivated to combine John et al. with Jaeger based on teachings in the Conclusion of Jaeger, which states that ORE "supports the creation of services in Java that are extensible, portable, and easily distributed over the network". Applicants respectfully disagree, and note that the solution described in John et al. concerns providing *definitions of and access to new MIB variables*, and does not point to any need for "creation of services in Java". Accordingly, one skilled in the art would not be motivated to modify John et al. to include the teachings of Jaeger et al. for the reasons cited by the Examiner, since the systems of John et al. and Jaeger have different objectives in this regard.

The combination of John et al. with Jaeger accordingly does not support a *prima facie* case of obviousness under 35 U.S.C. 103 with regard to the present independent claim 33, and dependent claims 40 and 46 are respectfully believed to be patentable over the combination of John et al. with Jaeger for at least the same reasons.

At paragraph 7 of the Office Action, the Examiner rejected dependent claims 42 and 43 for obviousness under 35 U.S.C. 103(a), again citing John et al., together with U.S. patent number 5,541,911 (Nilakantan). Applicants respectfully traverse this rejection.

As with John et al., nowhere in Nilakantan is there disclosed or suggested any method or system for controlling a data forwarding service in a network device comprising a data forwarding device as in the present independent claim 33, from which claims 42 and 43 depend. Neither John et al. nor Nilakantan teach or suggest a network device for locally performing a data forwarding service in accordance with a received document written in a document markup language, wherein the network device comprises a data forwarding device, including:

> a parser that is adapted to parse the received document in accordance with a document definition to obtain an identifier of the service, ***wherein the parsing determines at least one parameter describing the data forwarding service by specifying a class of objects for the data forwarding service***; and
>
> a service launcher that is adapted to launch the data forwarding service corresponding to the identifier parsed from the received document, ***wherein the service launcher instantiates and launches the data forwarding service in the data forwarding device upon completion of the parsing based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device operable to filter network traffic***. (emphasis added)

Nilakantan discloses a communication management system with remote filtering, in which network traffic from a central device sent across a communication link to a remote device is controlled based upon central traffic management resources in the central device. Neither John et al. nor Nilakantan include even a suggestion of the desirability of the above indicated features of the present independent claim 33, from which claims 42 and 43 depend. For these reasons, Applicants respectfully urge that the combination of John et al. with Nilakantan does not disclose or suggest all the limitations of the present independent claim 33, from which dependent claims 42 and 43 depend.

The combination of John et al. with Nilakantan accordingly does not support a *prima facie* case of obviousness under 35 U.S.C. 103 with regard to the present independent claim 33,

and dependent claims 42 and 43 are respectfully believed to be patentable over the combination of John et al. with Nilakantan for at least the same reasons.

In the next paragraph of the Office Action, also numbered paragraph 1, the Examiner again rejects claims 1-4, 9-20, 25-37, 39, 41-43, 45 and 47-50 as being obvious under 35 U.S.C. 103, citing U.S. patent 6,546,419 of Humpleman et al. ("Humpleman et al."), in combination with "HP Intros mgmt. apps for router nets" ("Duffy"), and United States patent number 6,757,720 of Weschler, Jr. ("Weschler"). Applicants respectfully traverse this rejection.

As noted in previous responses, Humpleman et al. disclose a system that obtains *device capability* information in a structured format, such as an XML document, and compares the capabilities of two home devices responsive to a user interface displayed on a client device. Humpleman et al. sends control and command data from the client device to the home devices to cause the home devices to perform certain services using XML Remote Procedure Calls (RPCs). Duffy discloses a Network Configuration Manager application and a Traffic Monitor application for configuring router networks and performing traffic analysis to pinpoint faults in a network, and uploading "configuration files" to provide configuration information from a central file server through manual uploading to a management station and downloading to routers. Weschler discloses managing user profile data structures comprising hierarchical structures of attributes, in which client applications having interfaces to protocol adapters send and receive messages through an API to a core profile engine.

Applicants continue to respectfully urge that the Examiner has not established a sufficient motivation to combine the cited references. As in the previous Office Action, the Examiner asserts in the present Office Action that "Given the teaching of Duffy and Weschler of *using XML to control network routers*, a person having ordinary skill in the art would have readily

recognized the desirability and advantages of using the particular XML remote management document, definition, and parsing method taught by Humpleman to control network routers using XML, because XML is "well understood, actively developed, and readily transportable through a variety of communications media," . . . (emphasis added). The Examiner asserts in the Response to Arguments section that ". . . a clear motivation [to combine] was set forth directly from the references themselves", and in the rejection notes that Weschler states that "Routers, switches, network ports, and other network devices recognize XML formatted documents embedded in HTTP data transport packets and are configured to handle them appropriately and reliably." The cited section of Weschler does not address the point previously raised by Applicants that the Examiner's statement that Duffy and Weschler teach "using XML to ***control*** network routers" is incorrect, since neither Duffy nor Weschler include such a teaching. Applicants note that the cited section of Weschler merely discloses that XML formatted documents are "***recognized***" by various networking devices - no mention is made of ***controlling*** such devices using XML. As previously noted, Duffy teaches the use of configuration files to manage routers, and Weschler teaches the *transportability* of HTTP embedded XML formatted documents storing user profile information *through routers and other devices.* Neither Duffy nor Weschler teach or suggest "using XML to control network routers", as the Examiner asserts. Applicants therefore continue to assert that the basis of the Examiner's asserted motivation to combine Duffy and Weschler with Humpleman et al. is therefore incorrect. The rejection is therefore improper, since a *prima facie* case of obviousness under 35 U.S.C. 103 must include a showing of a suggestion, teaching or motivation that would have led a person of ordinary skill in the art to combine the cited references in the particular manner claimed, See In re Dembiczak, 175 F.3d 994, 998 (Fed. Cir. 1999), and In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir. 2000).

The Examiner has apparently still not provided any reason for specifically combining "Duffy" with "Weschler". The attempted showing of a motivation for combining Humpleman with the teachings of "Duffy" *and* "Weschler" (emphasis added) is noted above. However, no explanation has yet been provided as to why a person skilled in the art would combine the specifically cited features of Duffy and Weschler in the particular manner claimed. Applicants respectfully urge that an obviousness type rejection under 35 U.S.C. 103 is improper without a clear and particular showing of sufficient motivation to combine *all* the references that are relied upon. "[C]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight." Dembiczak, 175 F.3d at 999.

Even if there were sufficient motivation to combine Humpleman et al., Duffy and Weschler in the particular manner claimed, and Applicants make no admission that such motivation exists, the combination still does not teach the present claims. Nowhere in the combination of Humpleman et al., Duffy and Weschler, is there disclosed or suggested any system or method for controlling a data forwarding service in a data forwarding device, including:

> receiving at the network device a document written in accordance with a markup language and a corresponding document definition, ***wherein the document describes the data forwarding service by specifying a class of objects for the data forwarding service***;
>
> . . .
>
> executing the data forwarding service on the network device . . . wherein the executing includes ***instantiating and launching the data forwarding service in the data forwarding device based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device to filter network traffic***. (emphasis added)

as in the present independent claim 1. Analogous features are present in the independent claims 17, 33 and 48. Neither the structured format service capability information provided from the home networking devices in Humpleman et al., the router configuration files of Duffy, nor the XML formatted user profile documents of Weschler, provide any suggestion of the above indicated limitations of the present independent claims.

For the above reasons, Applicants respectfully urge that the combination of Humpleman et al., Duffy and Weschler does not disclose or suggest all the features of the present invention as set forth in the independent claims 1, 17, 33 and 48. Accordingly, the combination of Humpleman et al., Duffy and Weschler does not form a *prima facie* case of obviousness under 35 U.S.C. with regard to independent claims 1, 17, 33 and 48. As to claims 2-4, 9-16, 18-20, 25-32, 34-37, 39, 41-43, 45, 47, and 49-50, they each depend from claims 1, 17, 33 and 48, and are believed to be patentable over the combination of Humpleman et al., Duffy and Weschler for at least the same reasons.

In subsequent paragraphs of the Office Action (number 2-4), the Examiner rejected claims 5-8, 21-24, 38, 40, 44 and 46 for obviousness under 35 U.S.C. 103, again citing Humpleman et al., Duffy and Weschler, in combinations with U.S. Patent Publication No. 2002/0032709 of Gessner ("Gessner"), "Dynamic Classification in Silicon-based Forwarding Engine Environments" ("Jaeger"), and United States patent number 5,951,649 of Dobbins ("Dobbins").

Applicants first submit that a sufficient motivation to combine the references has not been established in paragraphs 2-4 of the Office Action. As set forth above, Applicants respectfully urge that the Examiner's motivation to combine Humpleman et al., Duffy and Weschler in the rejection under 35 U.S.C. 103 in paragraph 1 of the Office Action is based on an incorrect

analysis of the contents of Duffy and Weschler, and includes no clear and particular motivation to combine Duffy with Weschler. The reasons given for combining Gessner, Jaegar, and Dobbins with Humpleman et al., Duffy and Weschler in paragraphs 2-4 of the Office Action present no motivation for combining Humpleman et al., Duffy and Weschler beyond that given in paragraph 1 of the Office Action. Since no further motivation for combining Humpleman et al., Duffy and Weschler is provided in paragraphs 2-4 of the Office Action, and since the rejections in paragraphs 2-4 are each based on combining additional references with Humpleman et al., Duffy and Weschler, Applicants respectfully submit that the rejections in paragraphs 2-4 also lack a sufficient motivation to combine the cited references. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." Dembiczak, 175 F.3d at 999. Applicants respectfully urge that since a clear and particular motivation has not been shown for combining Humpleman et al., Duffy and Weschler, the rejections of paragraphs 2-4 of the Office Action, each of which is based on a combination including Humpleman et al., Duffy and Weschler, also lack the requisite motivation to combine the cited references under 35 U.S.C. 103.

Even if there were sufficient motivation to combine the cited references in the particular manner claimed, and Applicants make no admission that such motivation exists, the combinations still do not teach the present claims. Like the combination of Humpleman et al., Duffy and Weschler, the cited combinations of references fail to disclose or suggest any system or method for controlling a data forwarding service in a network in a data forwarding device, including:

> receiving at the network device a document written in accordance with a markup language and a corresponding document definition, ***wherein the document describes the data forwarding service by specifying a class of objects for the data forwarding service***;
>
> . . .
>
> executing the data forwarding service on the network device . . . wherein the executing includes ***instantiating and launching the data forwarding service in the data forwarding device based on the class of objects for the data forwarding service, and wherein the data forwarding service configures a forwarding architecture in the network device to filter network traffic.*** (emphasis added)

as in the present independent claims 1, 17 and 33. The cited combinations of references include no hint or suggestion of the above indicated limitations of the present independent claims 1, 17 and 33. Accordingly, Applicants respectfully urge that the combinations of references cited in the paragraphs labeled 2-4 at the end of the Office Action do not disclose or suggest all the features of the present invention as set forth in the independent claims 1, 17 and 33. The cited combinations therefore do not form the basis of a *prima facie* case of obviousness with regard to independent claims 1, 17 and 33. As claims 5-8, 21-24, 38, 40, 44 and 46 each depend from claims 1, 17 and 33, they are respectfully believed to be patentable over the cited combinations of paragraphs 2-4 of the Office Action for at least the same reasons. Reconsideration of all pending claims is respectfully requested.

For the above reasons, and in view of the amendments to the claims herein, Applicants respectfully urge that the present claims are allowable over the prior art of record, and respectfully request that the Examiner's rejections be withdrawn. This application is now considered to be in condition for allowance and such action is earnestly solicited.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone David A. Dagg, Applicants' Attorney at 617-630-1131 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

JANUARY 23, 2006
Date

David A. Dagg, Reg. No. 37,809
Attorney/Agent for Applicant(s)
McGuinness & Manaras LLP
125 Nagog Park Drive
Acton, MA 01720
(978) 264-6664

Docket No. 120-078